"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

Elastic Scattering of 128- and 162-Mev π^--Mesons by Protons.

S/056/60/038/03/10/033
B006/B014

number of hydrogen nuclei per cm^3, β - a coefficient, q - the μ^-- and electron admixtures in the beam, r - the efficiency of evaluation of the pictures). For the two energies at which measurements were made, Table 1 lists all the quantities appearing in these formulas, as well as the root-mean-square errors. Table 2 contains the values obtained for the total elastic scattering cross sections in the energy range 100 - 200 Mev. Tables 3 and 4 list the differential elastic scattering cross sections $d\sigma/d\Omega$ for 128 and/or 162 Mev. In the following, the authors discuss numerous details concerning the calculation and application of the necessary corrections. For both energies the total elastic scattering cross sections amounted to $(12.8\pm1.0).10^{-27}cm^2$ and $(21.4\pm1.2).10^{-27}cm^2$. Here, the angular-distribution formula $d\sigma/d\Omega = a + b \cos\theta + c \cos^2\theta$ holds, and the coefficients a,b,c for both energies are given on p. 743. Fig. 8 shows the two curves of angular distribution. The following relation holds for the differential forward scattering cross section: $d\sigma(0)/d\Omega = a + b + c = (2.20 \pm 0.32).10^{-27} cm^2/steradian$ (for 128 Mev) and $(3.73 \pm 0.32).10^{-27} cm^2/steradian$ (for 162 Mev). At these

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Elastic Scattering of 128- and 162-Mev π^--Mesons by Protons

S/056/60/038/03/10/033
B006/B014

energies the real parts of the forward scattering amplitudes (in the center-of-mass system) in $\lambda/m_\pi c$ units amount to 0.261 ± 0.031 and 0.216 ± 0.038, respectively. These values agree with those calculated from dispersion relations if the coupling constant $f^2 = 0.08$ is used. The authors finally thank L. I. Lapidus, S. N. Sokolov, and V. A. Meshcheryakov for their discussions, L. I. Krasnoslobodtseva, T. S. Sazhneva, and Yu. L. Saykina for their assistance, as well as A. A. Andrianova and G. D. Malysheva for their calculations. Further, N. P. Klepikov, V. G. Zinov, A. D. Konin, S. M. Korenchenko, and B. M. Pontekorvo are mentioned in this article. There are 9 figures, 4 tables, and 34 references, 10 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 18, 1959

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83713

S/056/60/038/004/006/048
B019/B070

24.6900

AUTHORS: Budagov, Yu. A., Viktor, S., Dzhelepov, V. P., Yermolov, P.F., Moskalev, V. I.

TITLE: Internal Conversion Pairs in the Decay of a Neutral π-Meson

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 4, pp. 1047-1052

TEXT: This work was communicated to the sixth session of the Uchenyy sovet OIYaI (Scientific Council of the Joint Institute of Nuclear Research) in May, 1959, and the Conference on the High Energy Particles in Kiyev in July, 1959. Here, data obtained from 27 events of the decay $\pi^0 \longrightarrow e^- + e^+ + \gamma$ are discussed. These events were detected in a diffusion chamber exposed to π^- meson beams with energies 128 and 162 Mev. The chamber was filled with hydrogen at a pressure of 25 atm and was placed in a magnetic field of 9000 gauss. The π^0-mesons were produced as a result of a charge exchange scattering. The determination of the relative π^0-decay probability is treated in great detail; its theoretical value is $2\rho_0 = w(\pi^0 \longrightarrow e^- + e^+ + \gamma)/w(\pi^0 \longrightarrow 2\gamma) = 0.0118$. In this connection they discuss

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Internal Conversion Pairs in the Decay of a Neutral π-Meson

some American results. The value $2\rho_0 = 0.0117 \pm 0.0015$ was experimentally obtained by the authors. The angle and energy characteristic of the pairs has been studied from the data for all the 27 events given in Table 2. The angular distribution of the pairs according to the correlation angles agrees well with the data obtained theoretically by Dalitz (Fig. 2). Also the distribution of the pairs according to the parameters $y = |p_{e^-} - p_{e^+}| / |\vec{p}_{e^-} + \vec{p}_{e^+}|$ and $x = (E^- + E^+)^2 - (\vec{p}_{e^-} + \vec{p}_{e^+})^2$ (Figs. 3 and 4) agree with the theoretical curves. Here p_{e^-} and p_{e^+} are the momenta of the electrons and the positrons, respectively and E^+ and E^- the total energies. The same is true for the angular distribution of the pairs relative to the direction of π^- mesons in the $(\pi^- - p)$ center of mass system (Fig. 5). Among the cases studied here, there was found one event with the mode of decay $\pi^0 \longrightarrow e^- + e^+ + e^- + e^+$. The authors thank Professor R. Dalitz for making available some of the unpublished theoretical calculations. There are 5 figures, 2 tables, and 14 references: 5 Soviet, 8 US, and 1 Italian.

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Internal Conversion Pairs in the Decay of a Neutral π-Meson

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ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 18, 1959

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

VASIL'YEVSKAYA, D.P.; GLAZOV, A.A.; DENISOV, Yu.N.; DZHELEPOV, V.P.; DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; ZAPLATIN, N.L.; KOL'GA, V.V.; KROPIN, A.A.; KUZMYAK, M.; ONISHCHENKO, L.N.; RYBALKO, V.S.; SARKISYAN, L.A.; SHVABE, Ye.; SARANTSEVA, V.R., tekhn. red.

[Theory and the modeling of a circular synchro-cyclotron with a spiral magnetic field] Voprosy teorii i modelirovaniia kol'tsevogo fazotrona so spiral'noi strukturnoi magnitnogo polia. Dubna, Ob"edinennyi in-t iadernykh issl., 1962. 7 p.
(MIRA 15:4)

(Synchrotron)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELEPOV, V.P.

GOLOVIN, B. M., DZHELEPOV, V. P., SUL'KANAYEV, R. Ya.

"Correlation of the Normal Components of pp-Scattering Polarization at 650 Mev. II"

report presented at Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Inst. for Nuclear Research
Lab. of Nuclear Problems

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELEPOV, V.P. FRIML, M., GERSHTEYN, S.S., KATYSHEV, Yu. V., MOSKALEV, V.I., YERMOLOV, P. F.

"Experimental Investigation of Mu⁻ Mesonic Atomic Processes in Gaseous Hydrogen"

report presented at the Intl. Conference on High Energy Physics, Geneva, 4-11 July 1962

Joint Inst. for Nuclear Research
Lab. of Nuclear Problems
Lab. of Theoretical Physics

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B108/B104

26.2212
24.6200

AUTHORS: Dzhelepov, V. P., Yermolov, P. F., Kushnirenko, Ye. A., Moskalev, V. I., Gershteyn, S. S.

TITLE: Experimental study of μ^--mesatomic processes in hydrogen gas

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 2, 1962, 439 - 449

TEXT: The experimental study of the capture of a negative meson by a proton $\mu^- + p \longrightarrow n + \bar{\nu}$ can give important information on weak interactions. The probability of this process depends on the spin state of the hyperfine structure of the hydrogen muomic atom as well as on the mesomolecule production probability $\lambda_{pp\mu}$. The authors give results of experiments conducted at the OIYaI (see Association entry) synchrocyclotron with a diffusion chamber containing technically pure hydrogen and placed in a constant magnetic field of 7200 oe. The method of investigation is based on the fact that the neutral $p\mu$ mesic atom after its formation covers a certain distance

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Experimental study of ...

before the decay of the μ-meson. The principal difficulty is the presence of O and C nuclei the protons of which may transfer μ-mesons. At a hydrogen pressure of 22.7 at, the cross section σ_{pp} of elastic scattering of $p\mu$ mesic atoms from protons is $(1.7^{+0.4}_{-0.5}) \cdot 10^{-19}$ cm^2. The probabilities of μ-meson transfer from protons to deuterons, λ_d, and to complex nuclei (C and O), λ_Z, as extrapolated to the density of liquid hydrogen are $(0.95^{-0.34}_{-0.2}) \cdot 10^{10}$ sec^{-1} and $(1.2^{+0.8}_{-0.5}) \cdot 10^{10}$ sec^{-1}, respectively. The production probability $\lambda_{pp\mu}$ in liquid hydrogen is $(0.6^{+0.8}_{-0.5}) \cdot 10^6$ sec^{-1}. The λ values agree well with theory. σ_{pp} is near the theoretical value calculated without considering the hyperfine structure of the $p\mu$ mesic atom. At present experiments are carried on in order to improve the experimental values of the above quantities, in particular of $\lambda_{pp\mu}$. The authors thank Ya. B. Zel'dovich for discussions as well as T. N. Tomilina, Ye. I. Rozanov, Ye. M. Kuchinskiy, A. V. Brzhestovskaya, N. P. Vasilistov, Ye. A. Kurchevskaya, L. Krasnoslobodtseva, T. Sazhneva, and Yu. Saykina for help. There are 4

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Experimental study of ...

figures, 1 table, and 18 references: 9 Soviet and 9 non-Soviet. The four most recent references to English-language publications read as follows: H. Primakoff. Rev. Mod. Phys., 31, 802, 1959. S. Weinberg. Phys. Rev. Lett., 4, 575, 1960. L. Wolfenstein, V. L. Telegdi. Proc. of the 1960 Ann. Intern. Conf. on High Energy Physics at Rochester, Publ. Univ. Rochester, 1961, pp. 529, 713; Ta-Yon Wu et al. Nucl. Phys., 16, 432, 1960; J. G. Fetkovich et al. Phys. Rev. Lett., 4, 570, 1960; M. Shiff. Preprint EFINS - 61-33, Report 351, June, 1961.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: October 26, 1961

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BUDAGOV, Yu.A.; DZHELEPOV, V.P.; IVANOV, V.G.; LOMAKIN, Yu.F.; FLAGIN, V.B.; SHLYAPNIKOV, P.V.

[Gas hydrodynamic design of the mechanism of pressure variation in a large-scale bubble chamber] Gidrogazodinamicheskii raschet mekhanizma izmeneniia davleniia bol'shoi puzyr'kovoi kamery. Dubna, Izd-vo Ob"edinennyi in-t iadernykh issledovanii, 1963. 18 p. (MIRA 16:10)
(Bubble chamber) (Fluid dynamics)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

S/089/63/014/001/003/013
B102/B186

AUTHOR: Dzhelepov, V. P.

TITLE: Investigation of the properties of μ-mesic atoms and μ-mesic molecules of hydrogen and of deuterium at the 680 - Mev - synchrocyclotron in Dubna

PERIODICAL: Atomnaya energiya, v. 14, no. 1, 1963, 27-37

TEXT: This is a report of the investigations carried out during the last few years with mesic atoms and molecules of hydrogen isotopes at the 680-Mev synchrocyclotron of the Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research) which is capable of yielding pions and muons of up to 400 Mev energy. Among the most important investigations made during 1960-62 in which S.S. Gershteyn, P. F. Yermolov, Yu. V. Katyshev, Ye. A. Kushnirenko, V. I. Moskalev, and others participated are: Investigation of the elastic scattering of the pμ atoms from protons, the reaction $p\mu+d \rightarrow d\mu+p$, the $pp\mu$ formation, the muon fusion catalysis and the determination of probabilities of mesomolecular formation. Muons and pions of 260 Mev/c produced by

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680 Mev protons were used. The meson beam passed through a collimator into a magnet chamber (rectification and deflection) and then through a copper filter in the diffusion chamber in which the mesons came to rest. Altogether 200,000 stereophotos were taken; to every 3-5 photos there was one muon stop. Fig. 2 shows the scheme of possible reactions; the λ denote the reaction probabilities, the decay probability: $\mu^- \to e^- + \nu + \tilde{\nu}$; $\lambda_0 = 0.45 \cdot 10^6$ sec^{-1}. The elastic $p\mu$-p scattering cross section was found to be $(1.7^{+0.4}_{-0.5}) \cdot 10^{-19}$ cm^2. This value is about 20 times that given by the theory. Work aiming to explain this fact is now going on at OIYaI. On the one hand a more exact $p\mu$ range distribution analysis is being made and on the other hand theoretical investigations of the main processes of the $p\mu$+p system are being carried out (scattering, depolarization, etc.). The large amount of experimental material available enabled the probability λ_d of the process $p\mu+d \to d\mu+p$ as well as the $pp\mu$ production probability to be determined with good accuracy. Converted to liquid hydrogen density and deuterium concentration, λ_d was found equal to

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$(1.2^{+0.4}_{-0.2})\cdot 10^{10}$ sec^{-1} which is in good agreement with the theory. The cross section of this reaction was found to be $\sigma_d = (4.2\pm1.2)\cdot 10^{-18}$ cm^2. If $\lambda_{pp\mu}$ is determined from the value of λ_d and with the ratio obtained by Lederman (Bleser et al.Phys.Rev.Lett.,8,128,1962), namely, $(\lambda_o + \lambda_{pp\mu})/\lambda_d = (1.06\pm0.11)\cdot 10^{-4}$ a value of $(0.8^{+0.4}_{-0.2})\cdot 10^6$ sec^{-1} is obtained. Numerous investigations were carried out also in the field of fusion catalysis. The fact that mesic atoms can approach each other to within 10^{-11} cm greatly facilitates both the fusions d+d and p+d. The ddμ production probability in relation to liquid deuterium density was here determined, too: ($\lambda_{dd\mu} = (0.44\pm0.14)\cdot 10^{-6}$ sec^{-1}) and the decay mode. dd$\mu \rightarrow H^3 + p + \mu^-$ was exactly investigated. It is the first time that $\lambda_{dd\mu}$ has been determined with such accuracy, this being found to be one order of magnitude higher than the theoretical value. $\lambda_{pd\mu}$ was found to be

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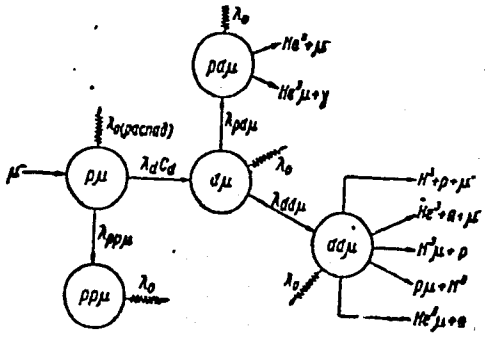
$(0.5^{+0.6}_{-0.4})\cdot 10^6\ sec^{-1}$. The muon transition probabilities from protons and deuterons to complicated nuclei were also determined. The values obtained were $\lambda_z^{p,d} \simeq 1.5\cdot 10^{10}\ sec^{-1}$; for Ne^{20}: $\lambda_{Ne} \sim 1\cdot 10^{10}\ sec^{-1}$. The emission of one or more Auger electrons following the capture of muons by the nuclear levels of C (n=4) and O (n=5) was also investigated. There are 6 figures.

SUBMITTED: September 14, 1962

Fig. 2



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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

GLAZOV, A.A.; DZHELEPOV, V.P.; DMITRIYEVSKIY, V.P.; ZAMOLODCHIKOV, B.I.; KOL'GA, V.V.; KROPIN, A.A.; ONISHCHENKO, L.M.; SHVABE, Ye.

Effect of a space charge on the frequency of free oscillations of particles in an isochronous cyclotron. Atom. energ. 15 no.3:205-209 S '63. (MIRA 16:10)

(Cyclotron) (Oscillations)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

S/056/63/044/001/027/067
B104/B144

AUTHORS: Golovin, B. M., Dzhelepov, V. P., Zul'karneyev, R. Ya., Ts'ui Wa-ch'uang

TITLE: Angular dependence of the polarization correlation C_{nn} and reconstruction of the amplitude moduli for pp scattering at 640 Mev. Estimation of the singlet phases. II

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 142-147

TEXT: This is the second report on studies to determine the nucleon-nucleon scattering matrix at 640 Mev. The experiments are carried out on the synchrocyclotron of the OIYaI following a certain program concerning np and pp scattering. In the first part the correlation C_{nn} was determined for normal polarizations in the c.m.s. for 90^0. In the present paper C_{nn} is determined for 54^0 (108^0) and 72^0 (126^0). A 640 Mev proton beam was formed by a quadrupole lens and two collimators so as to hit the first target, a cylindrical container of liquid hydrogen, with a beam

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density of $(3-3.5)\cdot10^8$ cm^2/sec. Protons elastically scattered on the first target fell through a slit onto analyzer targets and were detected by counters. The amplitude of elastic pp scattering is represented in the form

$$M=\tfrac{1}{2}\{(a+b)+(a-b)(\sigma_1 n)(\sigma_2 n)+e(\sigma_1+\sigma_2)n+(c+d)(\sigma_1 m)(\sigma_2 m)+ \\ +(c-d)(\sigma_1 l)(\sigma_2 l)\}. \qquad (1)$$

according to R.Oehme (Phys.Rev., 98, 147, 1955). M is measured experimentally in this representation, the other parameters are described by the following relations:

$$\overline{\sigma(\theta)=\tfrac{1}{2}(|a|^2+|b|^2+|c|^2+|d|^2+|e|^2)}, \quad P(\theta')=\frac{\mathrm{Re}\,as^*}{\sigma(\theta)},$$
$$C_{nn}=\frac{1}{2\sigma(\theta)}(|a|^2-|b|^2-|c|^2+|d|^2+|e|^2),$$
$$D(\theta)=\frac{1}{2\sigma(\theta)}(|a|^2+|b|^2-|c|^2-|d|^2+|e|^2);$$
$$K(\theta)=\frac{1}{2\sigma(\theta)}(|a|^2-|b|^2+|c|^2-|d|^2+|e|^2).$$

These relations and the experimental data are used to find the results

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Angular dependence of the ...

given in Table 3. $|M_{ss}(54^0)| = (0.40\pm0.07)\cdot10^{-13}$ cm is found for the scattering amplitude. This value gives a singlet scattering cross section of $\sigma_s(54^0) = (0.4\pm0.14)\cdot10^{-27}$ cm^2. The pp scattering cross section in the triplet state is $\sigma_{tr}(54^0) = (3.3\pm0.2)\cdot10^{-27}$ cm^2. The contribution of singlet scattering to the total scattering cross section increases considerably with a decrease of the scattering angle from 90° to 54°. There are 1 figure and 4 tables.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: August 23, 1962

$\theta_{c.\,u.\,m.}$, град	$\frac{\lvert a\rvert^2+\lvert e\rvert^2}{2\sigma(\theta)}$	$\frac{\lvert b\rvert^2}{2\sigma(\theta)}$	$\frac{\lvert c\rvert^2}{2\sigma(\theta)}$	$\frac{\lvert d\rvert^2}{2\sigma(\theta)}$	$\frac{\lvert a-e\rvert^2}{2\sigma(\theta)}$
54	0,78±0,09	0,21±0,08	0,00±0,08	0,00±0,08	0,42±0,09
72	0,66±0,07	0,19±0,07	−0,02±0,07	0,17±0,07	0,53±0,07
90	0,95±0,03	0,02±0,05	0,02±0,05	0,02±0,08	0,95±0,08
108	0,66±0,07	−0,02±0,09	0,19±0,09	0,17±0,07	0,79±0,07
126	0,78±0,09	0,00±0,07	0,21±0,07	0,00±0,09	1,14±0,09

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L 58913-65 EWT(m)/EPA(w)-2/EWA(m)-2 Pt-7 IJP(c) GS

ACCESSION NR: AT5007938 S/0000/64/000/000/0547/0555

AUTHOR: Glazov, A. A.; Denisov, Yu. N.; Dmitriyevskiy, V. P.; Zamolodchikov, B.I.; Zaplatin, N.L.; Kol'ga, V. V.; Komochkov, M. M.; Kropin, A. A.; Dzhelepov, V. P.; Gashev, M. A.; Malyshev, I. F.; Monoszon, N. A.; Popkovich, A. V.

TITLE: Relativistic 700-Mev proton cyclotron

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 547-555

TOPIC TAGS: proton accelerator, relativistic particle

ABSTRACT: Current theoretical concepts and experimental data conclusively show that to understand the microcosm further it is necessary to increase the beam intensity of accelerators by a factor of 10^3 and produce accelerators with energies up to thousands of Bev's. For the past 5-6 years constant gradient accelerators (500-900 Mev cyclotrons) have appeared to be the best way to produce particles with energies up to 1 Bev (1 Gev) with beam currents of the order of 1 milliampere instead of 1 microampere (as found in synchrocyclotrons). The present report describes the design for a 700-Mev proton cyclotron developed by the Laboratory of Nuclear Prob-

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blems of the OIYaI jointly with the NIIEFA GKAE SSSR and other scientific research institutes with rated current proton beam up to 500 microamperes. The choice of energy was made on the basis of the fact that at 700 Mev the cross-sections for formation of pions in nucleon-nucleon and nucleon-nuclei collisions are close to maximum, and also because of the possibility of utilizing the electromagnet of the 680-Mev synchrocyclotron of the OIYaI for the new accelerator. The following new problems were considered in the design because there is now no similar operational high-energy accelerator: (a) verification of the linear theory and development of the nonlinear theory of spatial stability and of the phase motion of particles in the accelerator; (b) creation in a large space of a magnetic field with complex configuration and its stabilization with an unusually high degree of accuracy; (c) production of apparatus for the measurement of strongly nonhomogeneous magnetic fields (gradients up to 4000 oe/cm) with an accuracy better than 10^{4}; (d) production of high-frequency oscillators with power up to 2 MW at a frequency of 12 megacycles per second (12 Mc), with frequency stability of the order of 10^{-5}, which operate with a resonance system with amplitude of the accelerating high-frequency voltage of up to 100 kilovolts; (e) design of an accelerator and its auxiliary systems which ensure effective operation and maintenance under conditions of high levels of activity; (f) development of a highly effective system for the channeling of proton beams from the accelerator, and also solution of the problems connected with

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producing beams of secondary particles and their channeling and focusing; (g) development of plans for the protection of personnel and instruments from radiation. The paper concludes that the relativistic cyclotron offers wide new possibilities for nuclear research in radiobiology, solid state physics, etc. Orig. art. has: 7 figures, 3 tables.

ASSOCIATION: (I) Ob"yedinennyy institut yadernykh issledovanniy, Dubna (Joint Institute of Nuclear Research, Dubna); (II) Nauchno-issledovatel'skiy institut elektrofizicheskpy apparatury imeni D. V. Yefremova GKAE SSSR (Scientific Research Institute of Electrophysical Equipment, GKAE SSSR)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 009 OTHER: 002

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

BUDAGOV, Yu.A.; DZHELEPOV, V.P.; IVANOV, V.G.; LOMAKIN, Yu.F.; FLYAGIN, V.B.; SHLYAPNIKOV, P.V.

Hydrodynamic study of the operating conditions of bubble chambers. Prib. i tekh. eksp. 9 no.5:55-60 S-O '64. (MIRA 17:12)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

KOTOV, V.I., kand.fiz.-matem.nauk (Dubna); VEKSLER, V.I., akademik; VLADIMIRSKIY, V.V.; SETVAK, M., doktor (Chekhoslovakiya); MINTS, A.L., akademik; DZHELEPOV, V.P., prof.; VAL'TER, A.K., prof.; KOLOMENSKIY, A.A., prof.

Accelerators of the future; articles and speeches of the participants in the international conference in Dubno. Priroda 53 no.1:44-56 '64. (MIRA 17:2)

1. Chlen-korrespondent AN SSSR (for Vladimirskiy).

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

ACCESSION NR: AP4018366 S/0120/64/000/001/0061/0068

AUTHOR: Bogomolov, A.V.; Budagov, Yu. A.; Vasilenko, A.T.; Dzhelepov, V.P.; D'yakov, N.I.; Ivanov, V.G.; Kladnitskiy, V.S.; Lepilov, V.I.; Lomakin, Yu. F.; Moskalev, V.I.; Flyagin, V.B.; Shetet, T.I.; Shlyapnikov, P.V.

TITLE: Meter-long bubble chamber in a magnetic field

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 61-68

TOPIC TAGS: bubble chamber, meter long bubble chamber, 10 Gev particle beam, bubble chamber in magnetic field, electromagnet bubble chamber

ABSTRACT: A bubble chamber with a sensitive volume of 1×0.5×0.38 m is described. The chamber is intended for studying the particle beams up to 10 Gev obtained from the OIYaI proton synchrotron. The chamber design was described earlier (Yu. A. Budagov, et al. International Conference on High-Energy Acceleration and Instrumentation, Berkeley, 1960); more details are supplied in the present article. Propane or some other liquid suitable for a particular experiment may serve as a working fluid. The chamber is placed in a 17-kilo-oersted magnetic field derived from a 2,200-kw electromagnet. The error in a

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ACCESSION NR: AP4018366

5-Gev/s-pulse measurement, evaluated from multiple scattering in propane, is ± 3.2%. In 1963, the chamber was installed at the output of the magnetic circuit of a π^--meson beam whose energy lies between 4 and 7 Gev. "The authors consider it their duty to thank V. N. Sergiyenko, N. I. Frolov, K. A. Baycher, and the personnel of the experimental shop for their help in building the outfit. The authors are thankful to V. I. Veksler, N. I. Pavlov, and I. V. Chuvilo for their assistance in constructing the magnetic circuit of the π^--meson beam. We are indebted to A. S. Strel'tsov, B. Ye. Gritskov, B. V. Rozhdestvenskiy, and L. N. Fedulov for designing and building the magnet. The authors are deeply grateful to N. P. Moshkov, V. A. Lebedev, and S. P. Zunin who spent much effort and skill in all stages of constructing and aligning the outfit." Orig. art. has: 8 figures.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Studies)

SUBMITTED: 22Mar63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: NS NO REF SOV: 003 OTHER: 002

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

ACCESSION NR: AP4033105 S/0120/64/000/002/0046/0050

AUTHOR: Budagov, Yu. A.; Dzhelepov, V. P.; Ivanov, V. G.; Lomakin, Yu. F.; Flyagin, V. B.; Shlyapnikov, P. V.

TITLE: Hydrodynamics of bubble chambers

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 46-50

TOPIC TAGS: hydrodynamics, nuclear research, bubble chamber, bubble chamber theory

ABSTRACT: The hydrodynamics of the process of expansion in a typical bubble chamber is mathematically described. The pressure variation along the chamber-neck axis is:

$$\frac{\partial \mathcal{P}}{\partial x} = -\rho \frac{\partial w}{\partial t} \mp \rho w \frac{\lambda_\Sigma w}{2D},$$

where w is the velocity of the incompressible (ρ = const) liquid in a constant cross-section $F = \pi D^2/4$ tube. After linearization and simplification, the equation yields this solution: $P(t) = \left(P_0 \cos \omega t + P_0 \frac{b}{\omega} \sin \omega t\right) e^{-bt}$. Here, the ratio b/ω

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ACCESSION NR: AP4033105

is a dimensionless parameter that characterizes the role of friction in a bubble chamber. For practical chambers, the condition $b/\omega \ll 1$ can be represented by $(V_0/D^3) \ll 3{,}000$. The gas expansion (as the pressure changes) occurs simultaneously with the liquid expansion in the chamber. This combined process is also described by a set of equations from which design formulas are derived. The method was used to design a 1-meter bubble chamber in the Joint Nuclear Research Institute. "The authors are indebted to I. A. Charny*y for his attention and numerous useful discussions which greatly helped in formulating and solving some of the problems in the hydrodynamics of transient motion." Orig. art. has: 1 figure and 17 formulas.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Nuclear Research Institute)

SUBMITTED: 01Jun63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: NS NO REF SOV: 005 OTHER: 002

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 8587-65 EWT(m) BIAAP/APWL

[illegible]ydrogasdynamic computation of a mechanism for variation [illegible]

[illegible] /9

SOURCE: Pribory* i tekhnika eksperimenta, no. 4, 1964, 56-65

TOPIC TAGS: hydrogasdynamic computation, bubble chamber, pressure variation, [illegible] construction parameter, pneumonic device

[illegible] The article presents a hydrogasdynamic method for [illegible]

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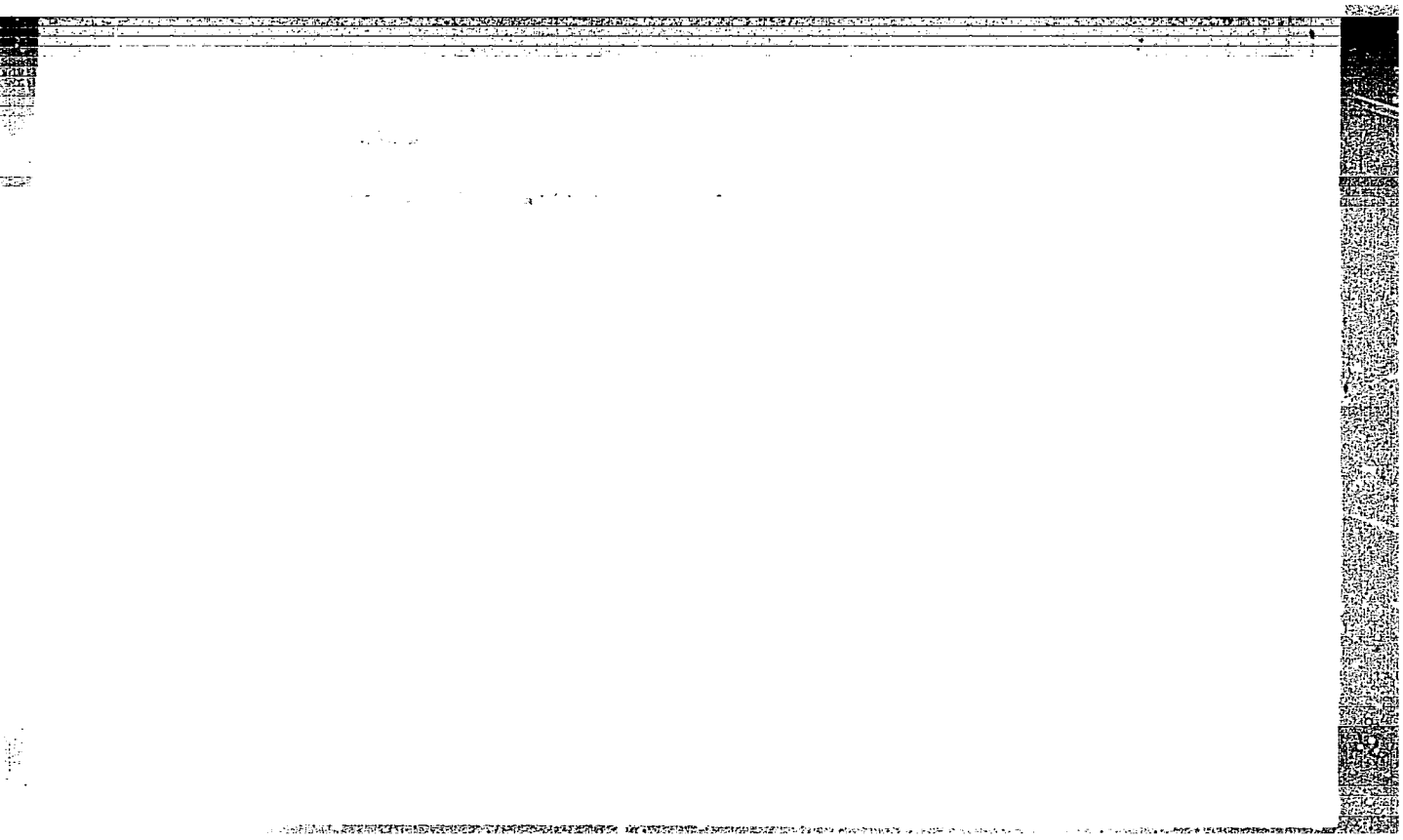

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

B/C

ACCESSION NR: AP4042565 S/0056/64/046/006/2042/2045

AUTHORS: Dzhelepov, V. P.; Yermolov, P. F.; Katy*shev, Yu. V.; Moskalev, V. I.; Fil'chenkov, V. V.; Friml, M.

TITLE: Catalysis of the nuclear $d + d \rightarrow He^3 + n$ fusion reaction by negative muons

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2042-2045

TOPIC TAGS: nuclear fusion, muon, mu meson catalysis, negative mu meson, hydrogen, deuterium

ABSTRACT: This is a continuation of earlier research on mesic-atom processes in gaseous hydrogen (V. P. Dzhelepov et al., Proc. 1962 Intern. Conf. on High Energy Physics at CERN, Geneva, 1962, p. 484. V. P. Dzhelepov, At. energiya v. 14, 27, 1963. V. P. Dzhelepov et al., ZhETF v. 42, 439, 1962), and is aimed at observation of the previously unobserved reaction $d\mu + d \rightarrow dd\mu \rightarrow He^3 + n + \mu^-$. This

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reaction is one of the fusion reactions

$$d\mu + d \rightarrow dd\mu \rightarrow \begin{cases} t + p + \mu^- \\ He^3 + n + \mu^- \\ p\mu + t \\ He^3\mu + n \\ t\mu + p \end{cases}$$

which were investigated earlier. The experimental conditions made it also possible to register reaction (1) and obtain some estimates of the yields of reactions (3) and (4). The tests were made with a diffusion chamber filled with deuterium to a pressure of 7.2 atm, where 20 events of the hitherto unobserved reaction (2) were detected. The ratio of the yields of reactions (2) and (1) is 1.20 ± 0.37. Estimates of the relative yields of reactions (3) and (4) give, with a probability of 90%, $w(3)/w(1) < 0.13$ and $w(4)/w(2) < 0.13$. The yield of the reaction (1) agrees with the data obtained by the authors earlier, but the yields of reactions (1) and (2) measured in

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ACCESSION NR: AP4042565

the experiments exceed by one order of magnitude those that can be expected on the basis of the data on reaction (1) obtained in liquid deuterium by several authors. Estimates of the yield of reaction (5) call for additional data reduction and will be published later. Orig. art. has: 2 figures and 5 formulas.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 10Feb64 DATE ACQ: ENCL: 00

SUB CODE: NP NR REF SOV: 003 OTHER: 005

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 13487-65 EWT(m) DIAAP/AFWL/SSD/ESD(t)

ACCESSION NR: AP4047891

Title: Elastic scattering of dMu mesic atoms by protons, deuterons and complex nuclei

Source: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1244-1256

TOPIC TAGS: elastic scattering, mu mesic atom, proton scattering, deuteron scattering, complex nucleus scattering, scattering cross section

Abstract: This is a continuation of earlier experiments by the [illegible] (ZhETF v. 42, 439, 1962; Proc. of Intl. Conf. on High-Energy Physics at CERN, p. 484; Atom. energ. v. 14, 77, 1963) and describes further experiments on the kinetics of [illegible] mu-

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L 13487-65

ACCESSION NR: AP4047891

cesses. The range distribution of d_μ atoms in hydrogen containing
[illegible] concentrations of deuterium and [illegible]
[illegible] unknown cross sections for [illegible]
[illegible] were measured, using a diffusion chamber [illegible]
[illegible] chamber has a diameter [illegible] gas
[illegible] negative mesons were [illegible]
[illegible] ...ron slowed by a filter, and [illegible]
A detailed description [illegible]
[illegible] the [illegible]
[illegible] program are described. The [illegible]
[illegible] comparison of the exp[illegible]
[illegible]

[illegible] The cross sections [illegible]
[illegible] is processes, obtained [illegible]

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 15487-65
ACCESSION NR: AP4047891

oretically, are:

Process	Experiment	Theory
$d\mu + d \to d\mu + d$	$(4.15 \pm 0.29)\ 10^{-19}$	4.3 [illegible] [illegible]
$d\mu + p \to d\mu + p$	$\left(0.8^{+0.8}_{-0.4}\right)\ 10^{-21}$	3.5 [illegible] [illegible]
$d\mu + Z \to d\mu + Z$	$(1.2 \pm 0.3)\ 10^{-19}$	$\sim 10^{-21}$ [illegible]
		$\sim$ [illegible]

An analysis analogous to that described in the article is in progress for the scattering of pμ atoms by protons and the results of the pre- [illegible] work are being applied to an interpretation of the yields of [illegible] reactions $p + d_\mu \to He^3 + \mu^-$ and $d_\mu + d \to [illegible] + p + \mu^-$, which will be reported later. "The authors are grateful to S. S. [illegible], Yu. M. Kazarinov, I. N. Silin, R. M. Sulyaev and V. M. [illegible] for useful discussions and valuable remarks, and to [illegible] I. Krasnolobodtseva, Yu. L. Saykina, and T. S. Ol'khovskaya for [illegible].

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 13487-65

ACCESSION NR: AP4047891

AUTHOR: Ob"yedinennyy institut yadernykh issledovaniy

Joint Institute of Nuclear Research.

SUBMITTED: 13May64 ENCL: 00

SUB CODE: NP NR REF SOV: 006 OTHER: 007

Card 4/4

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 5332-66 EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5021098 UR/0056/65/049/002/0393/0405

AUTHORS: Dzhelepov, V. P.; Yermolov, P. F.; Fil'chenkov, V. V.

TITLE: Scattering of pμ atoms by protons

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 2, 1965, 393-405

TOPIC TAGS: mu meson, meson interaction, proton interaction, elastic scattering, scattering cross section, proton scattering

ABSTRACT: This is a continuation of an earlier investigation (ZhETF v. 42, 439, 1962) of the reaction pμ + p pμ + p. In the present work this process was investigated in greater detail for the purpose of determining the spin state of the pμ atom prior to muon decay or muon capture by the proton. The experimental equipment and procedure were similar to that used previously, and the statistics accumulated were increased by one order of magnitude. The cross sections were determined from the analysis of the distributions of the number of

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events of a function of the pμ-atom mean free path under different operating conditions. The mean free path distributions of the pμ atoms were obtained with the aid of a diffusion chamber at various hydrogen densities and impurity (carbon, oxygen) concentrations. An analysis shows that the pμ atom lifetime can be reconciled with theory by assuming for the pμ + p system an effective cross section $1.73 \pm 0.19 \times 10^{-19}$ cm^2. The cross section for the elastic scattering of pμ atoms by protons is found to be $1.67 \pm 0.30 \times 10^{-19}$ cm^2 for the singlet spin state of the pμ atom. This is larger than predicted by the theory, and may be due to the existence of a low energy virtual level in the pμp system. The most probable transition rate from the triplet state of the pμ atom to the singlet state is $\sim 10^{10}$ sec^{-1}, with complete depolarization except when the pressure reaches the order of an atmosphere. The rate of formation of ppμ-mesic molecules in the para state is negligibly small compared with the ortho state. It is also shown that the transition of the muon from the proton to the carbon and oxygen nuclei occurs predominately on the high Qμ and Qμ

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L 5332-66

ACCESSION NR: AP5021098

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atomic orbitals, and the probability for direct transition to the 1s level is less than 3 per cent. 'The authors thank S. S. Gershteyn for interest and valuable discussions, and F. L. Shapiro and K. Parlinskiy for a discussion of problems connected with the Krieger-Nelkin method.' Orig. art. has: 7 figures, 15 formulas, and 4 tables

ASSOCIATION: Ob''yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: 03Mar65 ENCL: 00 SUB CODE: NP

NR REF SOV: 009 OTHER: 008

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

AP5011292

[illegible], V. P., Dmitriyevskiy, V. [illegible]

[illegible] current high energy particle acce[illegible]

SOURCE: Uspekhi fizicheskikh nauk, v. 85, no. 4, 1965, 651-678

TOPIC TAGS: particle accelerator, cyclotron, high current acce[illegible], particle accelerator shielding

ABSTRACT: The article deals with high-energy particle acce[illegible] in which the [illegible] approximately [illegible]

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with such accelerators, as well as the use of a linear proton accelerator as a high current source, are also discussed. Orig. art. has [illegible] figures, [illegible] formulas, and [illegible] tables.

Abbr: None

SUBM DATE: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 017 OTHER: 009

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 2274-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS
ACCESSION NR: AT5007943 UR/0000/64/000/000/0611/0615

AUTHOR: Glazov, A. A.; Dzhelepov, V. P.; Dmitriyevskiy, V. P.; Zamolodchikov, B. I.; Kol'ga, V. V.; Kropin, A. A.; Onishchenko, L. M.; Shvabe, Yu. I.

TITLE: Effect of space charge on the free oscillation frequency of particles in an isochronous cyclotron

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 611-615

TOPIC TAGS: high energy accelerator, space charge, cyclotron

ABSTRACT: Theoretical studies of the effect of space charge on the motion of particles in accelerators have been carried out in a number of works: Berestetskiy, V. V.; Gol'din, L. L.; Koshkarev, D. T. *Pribory i tekhnika eksperimenta*, 3, 26 (1956); Dmitriyevskiy, V. P.; Zamolodchikov, B. I.; Kol'ga, V. V. *Doklad na konferentsii po tsiklotronam* (Report on the Cyclotron Conference), Gracow, 1960; Kolomenskiy, A. A.; Lebedev, A. N. *Atomnaya energiya*, 7, 549 (1959). To create strong-current accelerators it is important to verify the theoretical conclusions with actual operating installations. The present work is concerned with the dependence of the frequency of axial oscillations upon the density of the space charge of the ac-

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L 2274-66

ACCESSION NR: AT5007943

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celerated particles. Pertinent measurements were carried out on a cyclotron with spiral magnetic field for the specific case of molecular hydrogen ions accelerated up to the energy of 12 Mev (Vasilevskaya, D. P., et. al., *Atomnaya energiya*, 8, 189 (1960)). The results of the present work shows that the effect of the space charge does not prevent beam intensities of the order of several milliamperes in relativistic cyclotrons. A result of this space charge is the displacement of the zones of resonant interaction of the oscillations. Expressions are obtained which describe the effect of the space charge on the basis of linear equations for the free oscillations, taking account of the electromagnetic field of the accelerated particles. It is assumed that the particles in a condensed bunch are uniformly distributed along the azimuth and that the vertical size of the bunch is much smaller than the azimuthal extension. The main topics discussed are: (1) the density of the charged particles in a relativistic cyclotron and its influence upon the frequency of the axial oscillations; (2) measurement of the azimuthal extension of the bunch; (3) measurement of the frequency of the axial free oscillations; and (4) the limiting intensity of the internal beam in a relativistic cyclotron. Orig. art. has: 6 figures, 8 formulas.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy, Dubna (Joint Institute of Nuclear Research)

SUBMITTED: 26May64 55

ENCL: 00 SUB CODE: NP

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELEPOV, V.P.; YERMOLOV, P.F.; FIL'CHENKOV, V.V.

Scattering of p /1-atoms on protons. Zhur. eksp. i teor. fiz. 49 no.2:393-405 Ag '65. (MIRA 18:9)

1. Ob"yedinennyy institut yadernykh issledovaniy.

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L 00069-66 EWT(m) DIAAP

ACCESSION NR: AP5021328 UR/0120/65/000/004/0042/0045
539.1.073.3

AUTHOR: Budagov, Yu. A.; Dzhelepov, V. P.; Lomakin, Yu. F.; Flyagin, V. B.; Shlyapnikov, P. V.

TITLE: Hydrodynamics of the resonant bubble chamber

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 42-45

TOPIC TAGS: proton accelerator, particle accelerator component, synchrotron, hydrodynamics, proton resonance

ABSTRACT: The authors proposed earlier that the speed of bubble chambers be increased by the excitation of periodic pressure oscillation within the working substance with frequencies equal to the resonant frequency of the liquid filling the chamber. In the present article, considering the bubble chamber as a special kind of volume resonator, the authors examine more closely the hydrodynamics of the processes of excitation within the liquid of undamped periodic pressure oscillations with the aim of increasing the speed of bubble chambers. The applicability of such chambers in proton synchrotron experiments is discussed. Expressions of practical interest are derived, and they connect the basic con-

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L 00069-66

ACCESSION NR: AP5021328

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structive and hydrodynamic parameters of resonant chambers. Results show that there are no essential obstacles to a successful excitation and maintainance of the oscillations. Orig. art. has: 15 formulas and 2 figures.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy, Dubna (Joint Institute of Nuclear Research)

SUBMITTED: 19Jun64 ENCL: 00 SUB CODE: NP, ME

NO REF SOV: 001 OTHER: 001

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 29607-66 EWT(m)/T

ACC NR: AT6013376 SOURCE CODE: UR/3202/65/000/511/0001/0024

AUTHOR: Dzhelepov, V. P.; Kiselev, V. S.; Oganesyan, K. O.; Flyagin, V. B. 38 Bt/

ORG: none 19

TITLE: Production of charged pi-mesons in collisions of neutrons with protons at a neutron energy of very nearly 600 Mev

SOURCE: Dubna. Ob"yedinennyy institut yadernykh issledovaniy. Doklady, R-2511, 1965. Obrazovaniye zaryazhennykh Pi-mezonov v soudareniyakh neytronov s protonami pri energii neytronov approximately equal to 600 Mev, 1-24

TOPIC TAGS: particle production, pi meson, neutron reaction, proton reaction, collision cross section

ABSTRACT: The energy spectra of the charged pions produced in (n-p)-collisions are measured at angles of 0-150°. A characteristic feature of these spectra is the high concentration of low-energy mesons. The spectral maxima are located at an energy very nearly equal to 60% of the maximum possible energy. An analysis of the energy distributions shows that the partial cross section σ_{01} has a considerable effect on particle production. The total angular distribution of the mesons has a low coefficient of anisotropy and is described by the expression:

$$\left(\frac{d\sigma}{d\Omega}\right)^{np\to pn\pi^+\pi^-} [(1,00\pm0,08)+(0,77\pm0,10)\cos^2\theta]\times(1\pm0,15)\cdot10^{-28}\ \text{cm}^2/\text{sterad}$$

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 29607-66

ACC NR: AT6013376

Data on the angular distribution of positively and negatively charged pions show practically no asymmetry. This may be due to the fact that the principal transitions which take place in the production of these mesons at 600 Mev are the (Sp)-transition in σ_{01} and the resonance (Pp)-transition in the partial cross section σ_{11}, which take place independently. The total measured cross section for production of both types of pions is $(1.3\pm0.2)\cdot10^{-27}$ cm^2 which does not contradict the relationship between the cross sections based on the hypothesis of charge invariance and may be used for determining the cross section for production of π-mesons in nucleon-nucleon collisions with a total isotopic spin of: $\sigma^{\pi}_{T=0} = (2,7\pm1,2)\cdot10^{-27}$ cm^2. A comparison of the value found for $\sigma^{\pi}_{T=0}$ with $\sigma^{\pi}_{T=1} = (10.1\pm0.6)\cdot10^{-27}$ cm^2 shows that the effect of nonresonance transitions cannot be disregarded in phenomenological models of meson production in nucleon-nucleon collisions in spite of the predominant part played by resonance processes.
The authors thank Yu. M. Kazarinov, L. I. Lapidus and Yu. N. Simonov for discussing the results of this work. Orig. art. has: 8 figures, 4 tables, 14 formulas.

SUB CODE: 20/ SUBM DATE: 22Dec65/ ORIG REF: 011/ OTH REF: 006

Card 2/2 CC

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 36462-66 EWT(m)

ACC NR: AP6018802 SOURCE CODE: UR/0056/66/050/005/1235/1251

AUTHOR: Dzhelepov, V. P.; Yermolov, P. F.; Moskalev, V. I.; Fil'chenkov, V. V.

ORG: Joint Institute of Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Negative muon catalysis of nuclear reactions of $d\mu + p \rightarrow He^3 + \mu^-$ and $d\mu + d \rightarrow t + p + \mu^-$ and the formation of $pd\mu$ and $dd\mu$ molecules in gaseous hydrogen

SOURCE: Zh eksper i teor fiz, v. 50, no. 5, 1966, 1235-1251

TOPIC TAGS: muon, hydrogen, deuterium, nuclear reaction, catalysis

ABSTRACT: The yield of nuclear reaction of $d\mu + p \rightarrow pd\mu \rightarrow He^3 + \mu^-$ and $d\mu + d \rightarrow dd\mu \rightarrow p + t + \mu^-$ have been measured in a diffusion cloud chamber filled with hydrogen and deuterium at pressures ranging from 7 to 23 atm.

Card 1/3

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L 36462-66

ACC NR: AP6018802 2

The muon transition rate from the deuteron muon atom to carbon and oxygen has been found from experimental deuteron muon ranges and Auger electron yields. The formation rates of proton deuteron muon and deuteron deuteron muon molecules (reduced to the density of liquid hydrogen and deuterium) have been found to be $\lambda_{pd\mu} = (1.8 \pm 0.8) \cdot 10^6$ sec^{-1}, $\lambda_{dd\mu} = (0.75 \pm 0.11) \cdot 10^6$ sec^{-1}. Estimate of the relative yield of the reaction $d\mu + d \rightarrow dd\mu \rightarrow t\mu + p$ shows that the relation of the yield of $d\mu + d \rightarrow dd\mu \rightarrow t\mu + p$ to the yield of $d\mu + d \rightarrow dd\mu \rightarrow p + t + \mu^-$ is less than 0.14 with a 90% probability. Analysis of experimental data on the reactions $d\mu + p \rightarrow pd\mu \rightarrow He^3 + \mu^-$ and $d\mu + p \rightarrow pd\mu \rightarrow He^3\mu + \gamma$ leads to the conclusion that the resonance mechanism of the formation of deuteron deuteron muon molecules is likely to be the reason for the large yield of the two deuteron fusion reactions under conditions of experiments conducted by the authors. The authors thank Yu. V. Katyshev, M. Friml,

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L 36462-66

ACC NR: AP6018802

2

and Ye. D. Shcherbakov for their participation in the initial stage of this work, and S. S. Gershteyn for his valuable discussions. Orig. art. has: 9 figures, 19 formulas, and 5 tables. [Based on authors' abstract]

[NT]

SUB CODE: 20/ SUBM DATE: 23Dec65/ ORIG REF: 012/ OTH REF: 010/

Card 3/3 bbs

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

L 45092-66 EWT(m)/T

ACC NR: AP6020203 SOURCE CODE: UR/0056/66/050/006/1491/1504

AUTHOR: Dzhelepov, V. P.; Kiselev, V. S.; Oganesyan, K. O.; Flyagin, V. B.

ORG: Joint Institute of Nuclear Research (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Formation of charged π-mesons in collisions of 600 Mev neutrons with protons

SOURCE: Zh eksper i teor fiz, v. 50, no. 6, 1966, 1491-1504

TOPIC TAGS: π meson, meson interaction, neutron, proton, angular distribution, spectrometer

ABSTRACT: The energy spectra of charged mesons produced in n—p collisons involving 600-Mev neutrons have been measured in a wide range of angles by a multichannel magnetic spectrometer. The spectra are characterized by many low-energy mesons. The peak energy of the spectra is ~ 0.6 from the largest possible value. The angular distribution of $\pi^{\pm}$ mesons in the center-of-mass system is described by the formula

$$(d\sigma^{*}/d\Omega^{*})_{\pi^{\pm}} = [(0{,}92 \pm 0{,}04) \mp (0{,}052 \pm 0{,}025)\cos\theta + (0{,}36 \pm 0{,}09)\cos^{2}\theta] \cdot (1{,}00 \pm 0{,}15) \cdot 10^{-28}\ \text{cm}^{2}/\text{sterad}.$$

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L 45092-66

ACC NR: AP6020203 3

The complete cross section of the meson formation was found to be
$\sigma_{np}(\pi^+) = \sigma(\pi_{np}^-) = (1.3 \pm 0.2) \times 10^{-27}$ cm^2.
An analysis of the results shows that despite the dominant role of resonance formation of pions in phenomenological studies, the contribution of nonresonance transitions must be taken into account. The authors thank Yu. M. Kazarinov, L. I. Lapidus, and Yu. N. Simonov for discussing the results. Orig. art. has: 6 figures, 15 formulas, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 21Jan66/ ORIG REF: 014/ SOV REF: none/ OTH REF: 007/

Card 2/2 blg

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

Dzhelepov, V.S.

DZHELEPOV, V.S.; KRAFT, O.Ye.; ZHINKINA, V.B.

Positrons in the radiation of the radioactive isotope In^{114}. Izv. AN SSSR. Ser. fiz. 21 no.7:978-984 Jl '57. (MLRA 10:9)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.
(Positrons) (Indium--Isotopes)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELEPOV, Yermolov, MOSKALEV, BUGADOV, Viktor S.,

"Elastic Scattering of Negative Pions by Protons at Energies 128 and 162 Mev"
"Internal Conversion Pairs in Neutral Pion Decay"

paper presented at the Intl Conference on High Energy Physics, Rochester, N. Y. and/or Berkly California, 25 Aug - 16 Sep 1960.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

44129

S/181/62/004/010/010/063
B108/B186

AUTHORS: Arsen'yeva-Geyl', A. N., and Dzhelepova, N. B.

TITLE: Preparation of PbS to high strain sensitivity

PERIODICAL: Fizika tverdogo tela, v. 4, no. 10, 1962, 2714-2718

TEXT: To study the effect of p-n junctions at the grain boundaries of PbS on the strain sensitivity, the authors subjected p-type samples pressed from PbS powder to thermal treatment at 550°C for periods ranging from 0.5 to 30 minutes. The resistance R as measured with a Wheatstone bridge and, in the case of high-resistivity samples, with an M-91/A (M-91/A) galvanometer (sensitivity $1.5 \cdot 10^{-8}$ a) was found to be a linear function of the deformation. The strain sensitivity was calculated from the formula $K = (\Delta R/R)/\varepsilon$, where ΔR is the change in resistance caused by the relative deformation ε. Thermal treatment led to the formation of oxide layers at the grain boundaries and, consequently, to the formation of p-n junctions. (J. C. Slater. Phys. Rev., 103, 1631, 1956). As heat treatment proceeds, these oxide layers become thicker (increase in R) and then break, reducing the grain size (decrease in R). As R after its decrease then

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again increases, this fact must be attributed to structural changes in the PbS. Bending tests and tests with omnilateral pressure (oil bath) gave similar results. Oxidation (heating) increases the barriers at the PbS grains, water vapor lowers them (according to T. T. Bykova) reducing the strain sensitivity. This is due to oxygen and water vapor causing a bending of the bands in opposed directions. There are 3 figures and 1 table.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: May 4, 1962

Fig. 2. Dependence of the resistance R, in ohms, (curve I) of PbS samples and of their strain sensitivity K (curve II) on the heating time t, in minutes, of the powder.

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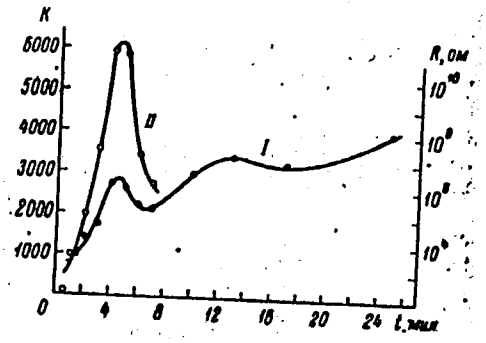

Fig. 2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DAHELILEVA, P. D.

Data on the chemical composition of seaweeds on the Black Sea. P. D. Dzhelileva (Acad. Sci. Ukr. S.S.R., Kiev). *Trudy Karadag. Biol. Sta., Akad. Nauk Ukr. S.S.R.* 1952, No. 12, 101–10.—About 200 analyses were made in 1939 and 1940 of the following seaweeds in the Black Sea: green algae: *Enteromorpha intestinalis* (I), *Chaetomorpha aerea, Cladophera utriculosa* (II), *Codium tomentosum;* brown algae: *Ectocarpus confervoides* (III), *E. siliculosus* (IV), *Cladostephus verticilatus, Cystoseira barbata* (V), *Padina -pavonia* (VI), *Scytosiphon lomentarius* (VII), *Sphacellaria cirrhosa;* red algae: *Ceramium-tenuissimum, Chondria dasyphilla, C. tenuissima, Gelidium latiforum* (VIII), *Gracilaria confervoides, Laurencia pinnatifida* (IX), *Nemalion lubricum* (X), *Polysiphonia opaca, P. pulvinata,* and *P. subulifera.* Max., min., and mean data are given for I–X for moisture, dry matter, carbohydrates (monosaccharides, disaccharides, and polysaccharide gums), fiber, N (albumin and residual), crude protein, and ash. The moisture varied from 60.52–92.81% with an increase during the winter and a decrease in summer. The protein N varied 0.61–3.19% on a dry basis and was highest in winter. The seaweeds contained rather small quantities of mono- and disaccharides; the mean total carbohydrates in I–X varied from 2.74 in VI to 45.73% in VIII. The fiber varied from 1.29 in X to 34.25% in II. The ash varied from 6.56 to 54.68% and increased in winter and late spring. Data collected during different months in both years are plotted graphically for 7 or 8 species for protein and residual N.

E. S.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELILOV, B.

Unit for recovery of spent salt. Mias.ind. SSSR 33 no.3:44 '62.
(MIRA 15:7)

1. Ashkhabadskiy myasokombinat.
(Ashkhabad--Meat industry--Equipment and supplies)
(Salvage (Waste etc.))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV I. T.

U.S.S.R. / Human and Animal Physiology. Liver. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22268.

Author : Dzheliev, I. T.
Inst : Not ~~given~~.
Title : The Behavior of Bile Secretion in Functional Changes of the Cortex of the Cerebral Hemispheres.

Orig Pub: Bul. eksperim. biol. i meditsiny, 1956, v. i. prilozhenye, 92-95.

Abstract: The parotid gland ducts were isolated in 3 dogs with fistulas of the gall bladder. The amount of bile and bilirubin concentration (B) were determined during a 4 hr. period, following the elaboration of a conditioned reflex of salivary secretion, with the aid of HCl. In all the animals, following the elaboration of the salivary conditioned reflex, an increase

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV, I.T.

Peculiarities of bile secretion in changes of the functional state of cerebral cortex. Biul.eksp.biol. i med. 43 no.1 supplement:92-95 '57. (MLRA 10:3)

1. Iz laboratorii obshchey fiziologii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.N.Chernigovskiy) Instituta normal'noy i patologicheskoy fiziologii AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.

(BILE, physiol.
secretion, eff. of conditioned reflexes in dogs)
(REFLEX, CONDITIONED
eff. on bile secretion in dogs)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV, I.T.

20-2-59/62

AUTHOR ARDASHNIKOVA, L.I., DZHELIYEV, I.T. and CHERNIGOVSKIY, V.N., Corresponding Member of Academy.

TITLE A Study of Interoceptive Signalization under Conditions of Chronic Experiment.
(Issledovaniye interotseptivnoy signalizatsii v usloviyakh khronicheskogo eksperimenta.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957, Vol 115, Nr 2, pp 411-413 (U.S.S.R.)

ABSTRACT The afferent systems of inner organs are mainly studied by means of the perfusion method of the organs separated from the general blood flow whose nerve connection with the organism remains intact. This problem is much more rarely tackled under conditions of chronic experiments. As we know a new reflectoric reaction can be produced by means of a stimulation of certain receptor zones; this reaction is characteristic of that center to which the impulses are adressed via the new nerve passages of the nerve anastomosis. In the present work the authors tried to use the formation between the n.vagus and those nerves which ennervate inner organs/ the kidney and the salivary gland. Thus the afferent signalization on the part of the inner organs was to be disclosed. Two kinds of operations were carried out:

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

ARDASHNIKOVA, DZHELIEV, CHERNIGOVSKIY, 20-2-59/62
Corresponding Member of Academy.

A Study of Interoceptive Signalization under Conditions of Chronic Experiment.

1) Sewing together the central end of the n.vagus with the peripheral end of the "barabannaya struna"
2) Sewing the same end of the n.vagus to the peripheral end of the kidney nerve the kidney being transplanted to the neck Pilokarpin was injected suboutanuously and intramascularly to some of the dogs in order to increase the secretion of saliva. Shortly after the operation this lead only to increased saliva secretion, but later to vomiting and asthma (oedema). After two to three more months the Pilokarpin injection led to vomiting. Control animals which were administered only physiologic solution did not show such reactions and Pilokarpin did not cause vomiting with normal animals. We therefore can assume that vomiting was caused by the stimulation of the n.vagus which again was caused by the impulsation on the part of the salivary gland increasingly functioning under the influence of Pilokarpin. The animals with their kidneys transplanted to their necks did not develop any noticeable effects following the injection of acetylcholin into the kidney parenchyma. Starting with the 3rd-5th month after the operation this injection showed the same effects as was the case with the first experimental series.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

A Study of Interoceptive Signalization under Conditions of Chronic Experiment.

Therefore the injection of an interoceptor-stimulating agens in the case of the majority of animals caused a reflectoric reaction. If we consider that a complete re-ennervation might not have been attained in all cases the results obtained justify the assumption that the method used makes it possible to prove an afferent impulsation from the inner organs in the case of a chronic experiment.
(2 Tables and 5 Slavic references)

ASSOCIATION: Institute for Normal and Pathologic Physiology of the Academy of Medical Sciences of the USSR.
(Institut normal'noy i patologicheskoy fiziologii Akademii meditsinskikh nauk SSSR)

PRESENTED BY: -
SUBMITTED: 15.4.57
AVAILABLE: Library of Congress

CARD 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV, I.T.

Further studies on the reflex effect of renin on the organism [with summary in English]. Biul.eksp.biol. i med. 45 no.4:46-49 Ap '58 (MIRA 11:5)

1. Iz laboratorii obshchey fiziologii (zav. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(PROTEASE, effects
renin on blood pressure & chemoreceptro sensitivity in cats (Rus))
(BLOOD PRESSURE, effect of drugs on
renin on cats (Rus))

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV, I.T.; CHERNIGOVSKIY, V.N.

Sensitization of mechanoreceptors under the influence of acetylcholine. Biul.eksp.biol. i med. 48 no.10:3-7 O '59. (MIRA 13:2)

1. Iz laboratorii obshchey fiziologii (zav. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva.
(ACETYLCHOLINE pharmacol.)
(INTESTINES physiol.)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEV, I.T.

Pathological shifts in the ECG of Rhesus monkeys following stimulation of the cortex of the "visceral brain" in chronic experiments. Pat. fiziol. i eksp. terap. 8 no.1:19-24 Ja-F '64. (MIRA 18:2)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti (zav.- prof. N.I. Lagutina) Instituta eksperimental'noy patologii i terapii (dir.- prof. B.A. Lapin) AMN SSSR, Sukhumi.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

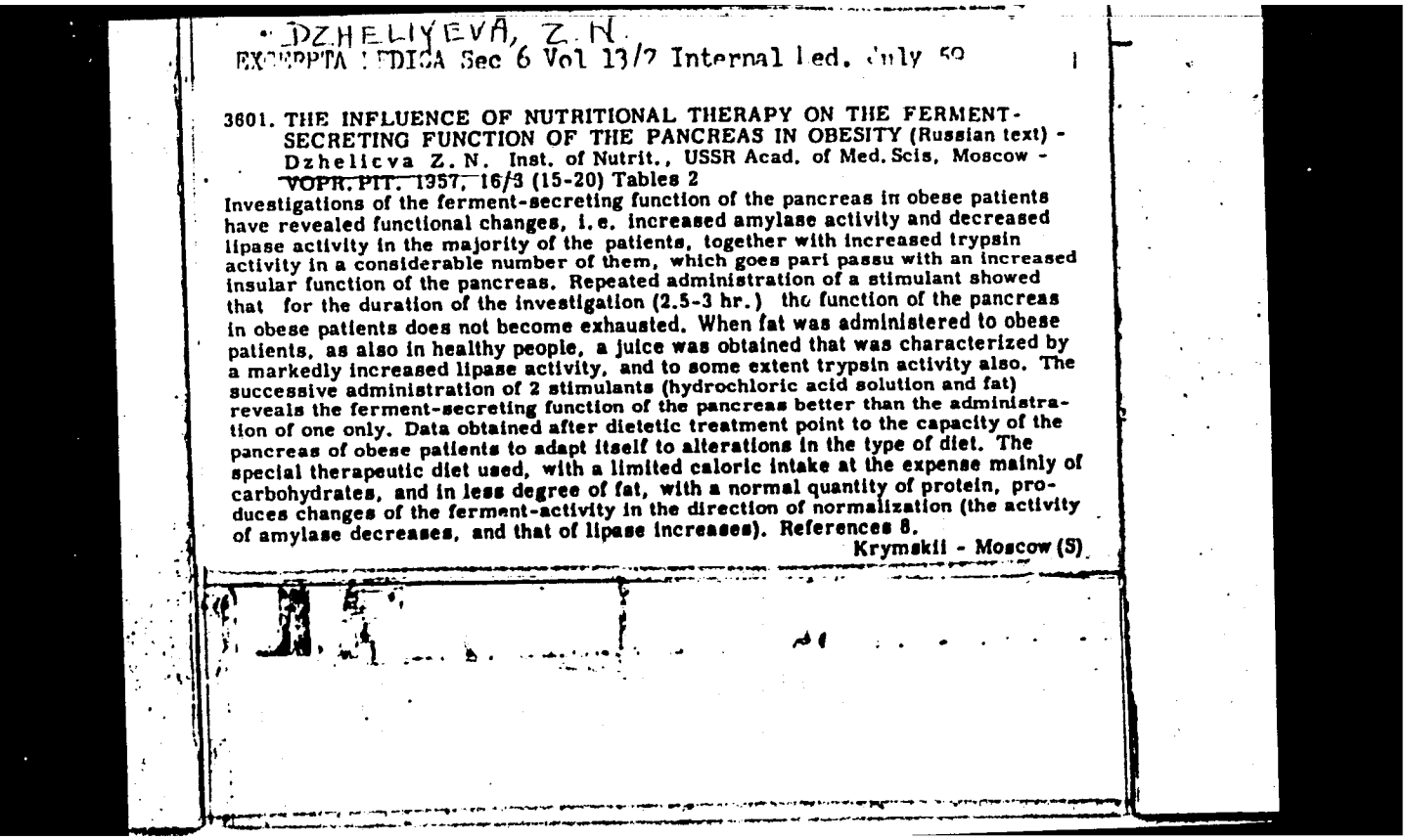
"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHKLIYEVA, Zinaida Nikolayevna; TRAKHTMAN,Ya.N., redaktor; SACHEVA,A.I., tekhnicheskiy redaktor

[Diet in diseases of the kidneys; advice to the patient] Pitanie pri boleznlakh pockek; sovety bol'nomu. Moskva, Gos.izd-vo med. lit-ry, 1955. 26 p. (MLRA 9:2)
(DIET IN DISEASE) (KIDNEYS--DISEASES)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8



DZHELIYEVA, Z. N.
EXCERPTA MEDICA Sec 6 Vol 13/7 Internal Med. July 59

3601. THE INFLUENCE OF NUTRITIONAL THERAPY ON THE FERMENT-SECRETING FUNCTION OF THE PANCREAS IN OBESITY (Russian text) - Dzhelicva Z. N. Inst. of Nutrit., USSR Acad. of Med. Scis, Moscow - VOPR. PIT. 1957, 16/3 (15-20) Tables 2

Investigations of the ferment-secreting function of the pancreas in obese patients have revealed functional changes, i.e. increased amylase activity and decreased lipase activity in the majority of the patients, together with increased trypsin activity in a considerable number of them, which goes pari passu with an increased insular function of the pancreas. Repeated administration of a stimulant showed that for the duration of the investigation (2.5-3 hr.) the function of the pancreas in obese patients does not become exhausted. When fat was administered to obese patients, as also in healthy people, a juice was obtained that was characterized by a markedly increased lipase activity, and to some extent trypsin activity also. The successive administration of 2 stimulants (hydrochloric acid solution and fat) reveals the ferment-secreting function of the pancreas better than the administration of one only. Data obtained after dietetic treatment point to the capacity of the pancreas of obese patients to adapt itself to alterations in the type of diet. The special therapeutic diet used, with a limited caloric intake at the expense mainly of carbohydrates, and in less degree of fat, with a normal quantity of protein, produces changes of the ferment-activity in the direction of normalization (the activity of amylase decreases, and that of lipase increases). References 8.

Krymskii - Moscow (S)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEVA, Z. N.: Master Med Sci (diss) -- "Investigation of the functional state of the pancreas in adiposis in connection with therapeutic feeding". Moscow, 1958. 16 pp (Acad Med Sci USSR), 200 copies (KL, No 6, 1959, 143)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEVA, Z.N.

Glycemic curves and changes following therapeutic diet in obesity.
Vop. pit. 18 no.3:46-52 My-Je '59. (MIRA 12:7)

1. Iz otdeleniya bolezney obmena veshchestv (zav. - prof. M.N. Yegorov) Kliniki lechebnogo pitaniya Instituta pitaniya AMN SSSR, Moskva.
(OBESITY, ther.
diets, eff. on blood sugar (Rus))
(DIETS, in var. dis.
obesity, eff. on blood sugar (Rus))
(BLOOD SUGAR, in var. dis.
obesity, eff. of diets (Rus))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEVA, Z.N.; TRUFANOV, A.V.

Biosynthesis of folic acid in the monkey's intestine depending on the composition of rations. Vop. pit. 22 no.2:57-63 Mr-Ap '63. (MIRA 17:2)

1. Iz laboratorii biokhimii (zav. -- prof. A.V. Trufanov) Instituta eksperimental'noy patologii i terapii AMN SSSR, Sukhumi.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEVA, Z.N.

Intestinal secretion in monkeys. Biul. eksp. biol. i med. 55 (i.e. 55/ no.10:18-21 0'63 (MIRA 17:8)

1. Iz Instituta eksperimental'noy patologii i terapii (dir.- doktor med. nauk B.A. Lapin) AMN SSSR, Sukhumi. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELIYEVA, Z.N.; KYUL'YAN, G.M.; TRUFANOV, A.V.

Disorders in folic acid metabolism in vitamin B_{12} deficiency induced by antivitamin B_{12}. Vop. med. khim. 10 no.4:386-393 Jl-Ag '64. (MIRA 18:4)

1. Laboratoriya biokhimii Instituta eksperimental'noy patologii i terapii AMN SSSR, Sukhumi.

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DZHELIYEVA, Z. N.

"Bliyanie kachestvenno pazlichnogo pitaniya na biosintez folievoy kisloty v kishyechnikye obyez'yan."

report presented at the Microecology Symp, Berlin & Potsdam-Rehbrucke, 27-30 Sep 64.

Inst Experimental Pathology & Therapy, Acad Med Sci USSR, Sukumi.

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NOVIKOV, V.; DZHELOMANOV, I.

Trade union groups on collective farms. Sov.profsoiuzy 6 no.13:53-55 O '58. (MIRA 11:11)
(Trade unions) (Collective farms)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

SEMENOVA, L.; DZHELOMANOV, V.; POPOV, N.; TEL'TSOVA, A. (g.Ivanovo)

In the trade union organizations. Sov.profsoiuzy 6 no.18:70-71 D '58. (MIRA 12:2)

1. Sekretar' Odesskogo oblastnogo soveta profsoyuzov.
(Trade unions)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOV, V.; NOVIKOV, V.

On the true path. Sov. profsoiuzy 7 no. 7:34-38 Jl '58.(MIRA 11:8)
(Trade unions)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOV, V.

Advanced enterprise. Izobr. i rats. no.1:22-23 Ja '59.
(MIRA 12:1)
(Voronezh Province--Rubber, Synthetic)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOV, Vasiliy Semenovich; ZHELUDKOV, A.A., red.; SHADRINA, N.D., tekhn.red.

[Eleventh Congress of Soviet Trade Unions] XI s"ezd sovetskikh profsoiuzov. Moskva, Izd-vo VTsSPS Profizdat, 1960. 77 p. (MIRA 13:7)

(Trade unions--Congresses)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DVORNIKOV, I.S.,; DZHELOMANOV, V.S.; NOVOSPASSKIY, V.V., red.;
GOLICHENKOVA, A.A., tekhn.red.

[Trade-union worker's reference book] Spravochnik profsoiuznogo rabotnika. Moskva, Izd-vo VTsSPS Profizdat, 1960. 607 p.
(MIRA 14:2)

(Trade unions--Handbooks, manuals, etc.)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DVORNIKOV, Ivan Semenovich; DZHELOMANOV, Vasiliy Semenovich; SHTYL'KO, Anatoliy Aleksandrovich; NOVOSPASSKIY, V.V., red.; SHADRINA, M.D., tekhn. red.

[Trade unions of the U.S.S.R.; a brief handbook] Professional'nye soiuzy SSSR; kratkii spravochnik. Moskva, zd-vo VTsSPS Profizdat, 1961. 127 p. (Bibliotechka profsoiuznogo aktivista, no.13) (MIRA 14:9)

(Trade unions—Handbooks, manuals, etc.)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z. K.

DIONIS'YEV, D.Ye.; DZHELOMANOVA, Z.K.

Investigating the interaction between 8-oxyquinoline and biatomic phenols and chlorophenols by methods of physicochemical analysis. Soob.o mauch.rab.chl.VKHO no.2:24-32 '54. (MIRA 10:10)
(Quinoline) (Phenols)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

USSR/Chemistry - Analysis

Card 1/1 Pub. 151 - 16/36

Authors : Dionisyev, D. E., and Dzhelomanova, Z. K.

Title : Reaction of 8-hydroxyquinoline with organic acids investigated by means of physico-chemical analysis methods

Periodical : Zhur. ob. khim. 24/1, 88-94, Jan 1954

Abstract : The reaction of 8-hydroxyquinoline with acetic, benzoic, salicylic, monochloroacetic, p-hydroxy benzoic, p-nitrobenzoic, cinnamic and hydroxinnamic acids (org. acids), was investigated by means of fusibility, viscosity, density and electrical conductivity (physico-chemical analysis) methods. The reaction products obtained are listed. The formation of an incongruently melting compound was observed during the reaction of 8-hydroxyquinoline with p-nitrobenzoic acid. No reaction was noticed during contact with p-hydroxy benzoic, cinnamic and hydrocinnamic acids. Three USSR references (1866-1952). Graphs.

Institution : The V. M. Molotov State University, Rostov

Submitted : July 17, 1953

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z. K.

USSR/Chemistry

Card 1/1 : Pub. 151 - 12/42

Authors : Dionisev, D. E., and Dzhelomanova, Z. K.

Title : Reactions of 8-hydroxyquinoline with anhydrides of organic acids investigated by physico-chemical analysis methods

Periodical : Zhur. ob. khim. 24/9, 1547-1551, Sep 1954

Abstract : Systems formed by a combination of 8-hydroxyquinoline with acetic, benzoic and phthalic anhydrides, were investigated by the fusibility, viscosity and electrical conductivity analysis methods. The fusibility, viscosity and electrical conductivity curves indicate the formation of $C_9H_7NO \cdot (CH_3CO)_2O$, $C_9H_7NO \cdot (C_6H_5CO)_2O$ and $C_9H_7NO \cdot C_6H_4(CO)_2O$ compounds in solid and liquid phases. It was established that the presence of two phenyl radicals in the anhydride formula increases its reactivity with 8-hydroxyquinoline. Three USSR references (1937-1954). Graphs.

Institution : State University, Rostov

Submitted : February 9, 1954

CA 49, 1165d.

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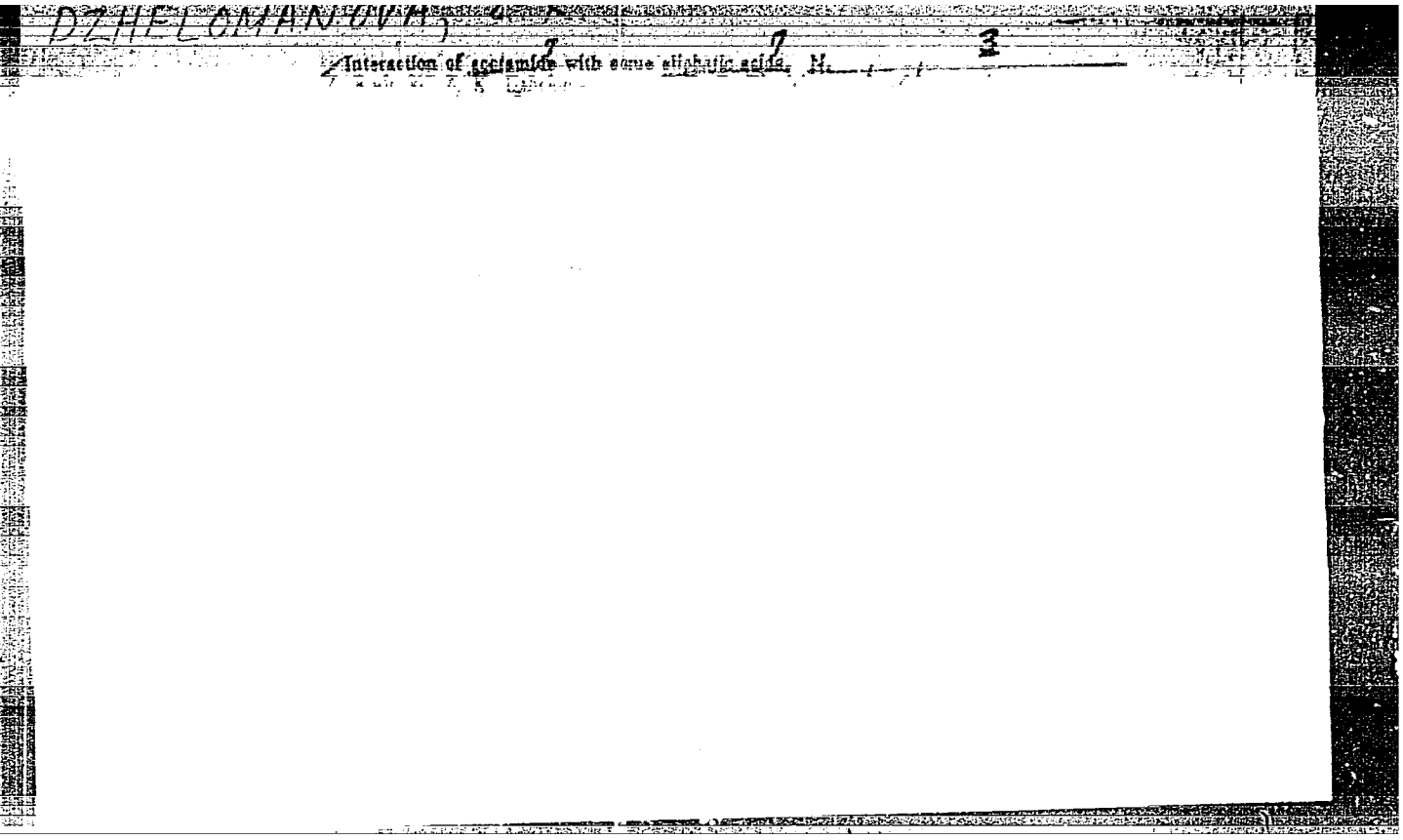

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z.K.; RUDENKO, N.Z.; DIONIS'YEV, D.Ye.

Physicochemical study of the interaction of acetamide with certain aromatic acids. Zhur.ob.khim.26 no.5:1322-1326 My '56. (MLRA 9:9)

1.Rostovskiy-na-Donu gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z. K.

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26176

Author : Z.K. Dzhelomanova, N.Z. Rudenko, D.B. Dionis'yev
Title : Study of Interaction of Acetamide with Some Aromatic Acide by Method of Physico-Chemical Analysis.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 5, 1322-1326

Abstract : The fusibility, viscosity, density and electrical conductivity of the systems of acetamine (I) with benzoic (II), cinnamonic (III), salycilic (IV) and anthranilic (V) acids were studied. A compound of the composition 1 : 1 forms in the system I - II. The composition of the incongruently melting compound in the system I - III is 1 : 2; the eutectic point corresponds to 67 mol.% of I and 56°; the transition point is at 56 mol.% and 70°. The fusibility curve of the system I - V consists of two branches crossing at the eutectic point (68 mol.% of I and 48°). The presence of chemical interaction is assumed on the basis of the curves of electrical conductivity.

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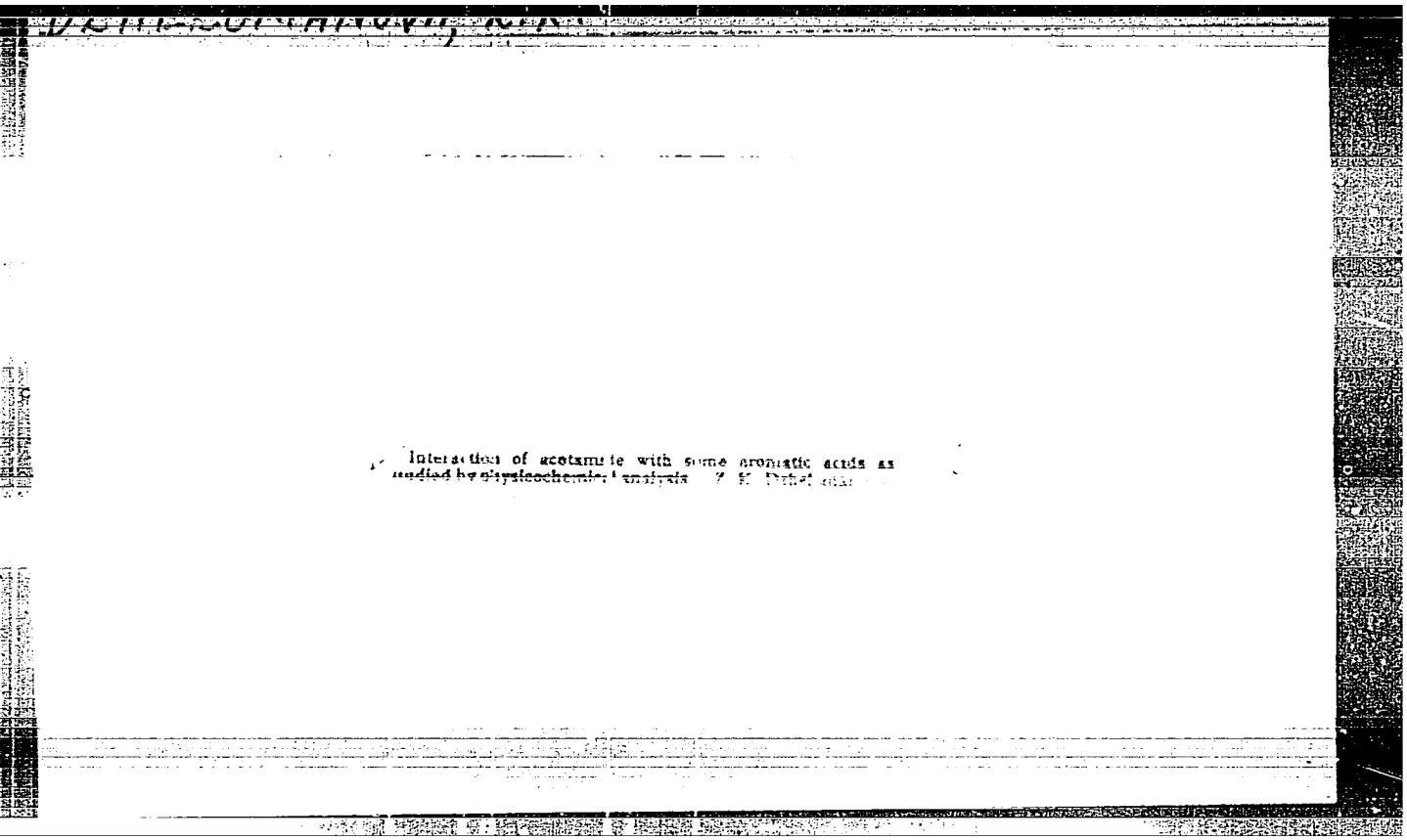

Interaction of acetamide with some aromatic acids as studied by physicochemical analysis

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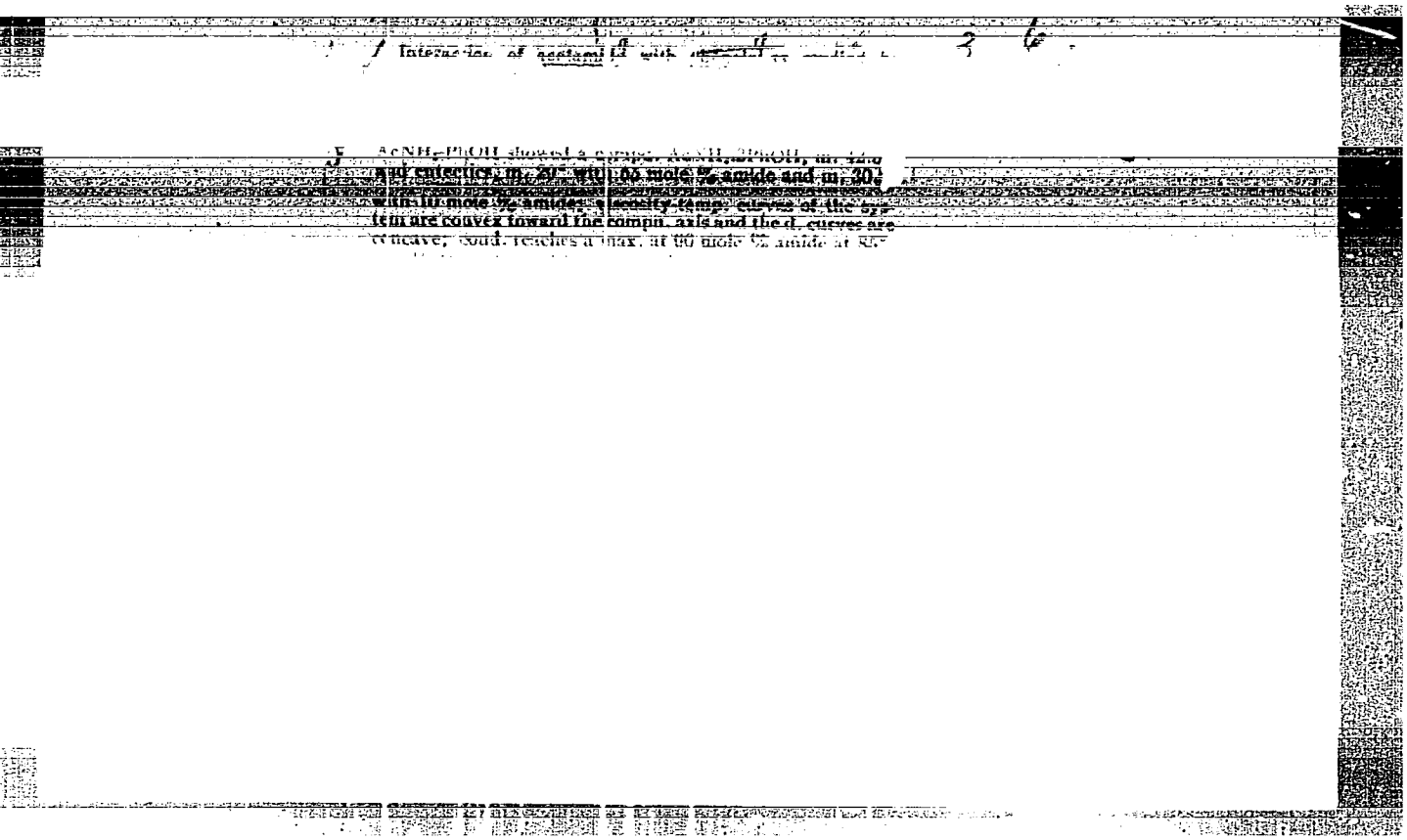

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z. K.

Reactions of 8-hydroxyquinoline with α - and β-naphthols. Zhur. ob. khim. 32 no.12:4079-4083 D '62. (MIRA 16:1)

(Quinolinol) (Naphthol)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910007-8

DZHELOMANOVA, Z.K.; RUDENKO, N.Z.; TOPAL, N.K.

Physicochemical analysis of the ternary system urea - β-naphthol - acetamide. Zhur. ob. khim. 34 no. 3:731-734 Mr '64. (MIRA 17:6)

1. Donetskiy meditsinskiy institut i Donetskoye otdeleniye Instituta organicheskoy khimii AN UkrSSR.

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S/103/60/021/009/013/013
B012/B063

AUTHORS: Gadzhiyev, M. Yu., Gul'ko, F. B., Dzhelyalov, A. R., Dudnikov, Ye. Ye., Kazakov, V. D., Litovchenko, I. A., Norkin, K. B., Prokhorov, N. L.

TITLE: Seventh Scientific and Technical Conference of Young Scientists of the Institute of Automation and Telemechanics of the AS USSR

PERIODICAL: Avtomatika i telemekhanika, 1960, Vol. 21, No. 9, pp. 1326-1331

TEXT: The sed'maya nauchno-tekhnicheskaya konferentsiya molodykh uchenykh IAT AN SSSR po voprosam avtomaticheskogo upravleniya (Seventh Scientific and Technical Conference of Young Scientists of the Institute of Automation and Telemechanics of the IAT AS USSR), held from March 14 to 16, 1960, dealt with problems of automatic control. It was attended by more than 400 persons, among them about 200 representatives of various organizations in Moscow and the Moscow oblast', who discussed research work carried out by young scientists in 1959. 75 lectures were delivered. The

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Seventh Scientific and Technical Conference of Young Scientists of the Institute of Automation and Telemechanics of the AS USSR

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Conference was opened by Academician V. A. Trapeznikov, Director of the Institute of Automation and Telemechanics. Professor M. A. Ayzerman, Doctor of Technical Sciences, spoke about "Scientific Problems of the Theory of Finite Automatic Machines (konechnyy avtomat)". At the final plenary meeting, Ye. V. Voloshina and Ye. V. Shtil'man gave a report on the "Simulation of Teaching Processes". The following sections worked between the two plenary meetings: 1) for automatic control with sub-sections for the theory of automatic control and automatic control systems; 2) for automatic checking; 3) for computers; 4) for elements and installations in automation and telemechanics; 5) for statistical methods in automation; 6) for the theory of relay circuits and finite automatic machines (konechnyy avtomat); 7) for automatic electric drive. The following lectures were delivered at the first sub-section of the first section: V. N. Novosel'tsev reported on the determination of the formula for optimal control of relay-pulse systems of second order for the case of pure relay control and for the case of relay control in the presence of an insensitive range. I. S. Morosanov spoke about the effect of fluctuations on extremal relay systems in the self-oscillating state.

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The author showed that the methods of calculating statistical transfer coefficients in the form suggested by I. Ye. Kazakov cannot be employed in this case. V. G. Gradetskiy and Yu. I. Ostrovskiy gave a report on "The Operation of Extremal Control Systems in Which the Extreme Value of Noise Is Memorized". N. V. Grishko gave the results of the determination of optimal characteristics of an extremal system under random actions. T. G. Babunashvili spoke about the investigation of the state of a control system having a servo-motor with a non-linear characteristic of speed and a strong feedback. He mentioned Kh. Masser. A. I. Morozov reported on a "Qualitative Study of Differential Equations Obtained When Solving a Problem of Synthesis" and explained A. M. Letov's method of synthesizing control systems. M. M. Simkin spoke about the determination of periodic modes of operation of pulse systems. R. P. Parsheva investigated the problem of stability according to Lagrange in the case of transient modes of operation of five-dimensional automatic, non-linear control system. V. A. Kislyakov spoke about "Longitudinal Stability of an Air-plane With a Delayed Autopilot". He mentioned a method of asymptotic approximations devised by N. M. Krylov and N. N. Bogolyubov. B. Ye. Chuprun reported

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Seventh Scientific and Technical Conference of Young Scientists of the Institute of Automation and Telemechanics of the AS USSR

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B012/B063

on "The Formulation of the Law of Controlling Linear, Stable Objects, Guaranteeing Least Displacement of the Controller". The following lectures were delivered at the second sub-section of the first section: B. B. Buyanov reported on the application of the theory of optimal quick-acting systems for controlling the drive of flying scissors of a rolling mill. B. G. Volik spoke about an automatic optimizer with two channels and two limitations, which is used to determine the extreme value immediately on an object of large inertia. I. N. Bocharov reported on an instrument recording distribution curves of any size. Ye. A. Rateyeva spoke about a three-channel optimizer for chemical production. V. G. Sholokhov gave an experimental proof of the convergence of the tuning of noise generators. K. B. Norkin's lecture dealt with the automatic tuning of the output cascade of a transmitter with the aid of a system of automatic scanning. V. N. Shadrin described a program-control system with frequency division of its channels. V. V. Karibskiy and A. P. Yevseyeva's reports contained data on a universal interpolator for digital program-control systems and data on the automatic selection of the interpolation sections on machine tools with a linear interpolator. M. I. Tayts described the test sample

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of an apparatus for automatic programing[16]. B. N. Andreychikov spoke about the dynamic accuracy of machine tools with program control. M. M. Khasanov's report dealt with the dynamic characteristics of air conditioners. The following lectures were held at the second section: M. V. Rybashov and I. M. Ponasenko explained several circuits for the dynamic correction of transmitters. V. S. Likhoninskiy spoke about "A Capacitive Measuring Apparatus in Systems of Digital Program Control of Manufacturing Processes". M. A. Prusov gave a report on the principles of designing and constructing an instrument for measuring the temperature of rotating parts. Yu. V. Gushchin spoke about the possibility of using crystal layers of semiconductors on cadmium-sulfide backings for the indication of radioactive radiation[19]. A. A. Kalmakov spoke about the possibility of using radioisotopes and the methods of nuclear spectroscopy for automatic checking[14] of the metal content of alloys and concentration products of ores of non-ferrous metals. V. A. Viktorov reported on the effect of higher harmonics in coaxial vibrators upon the operation of an extremal endovibrator level-meter. The following lectures were held at the third section: A. G. Butkovskiy - "Simulation of Some Objects With Distributed Parameters"; A. V. Shileyko -

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